

# Missouri Diabetes Report

January 01

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Report to the general assembly on diabetes-related efforts in the MO HealthNet Division and the Department of Health and Senior Services.

RSMO 191.990



## Part I. Burden of Diabetes in Missouri

It is estimated that more than 446,000 adult Missourians had doctor-diagnosed diabetes in 2013, with a prevalence of 9.6 percent (Table 1), similar to the national median prevalence of 9.7%.<sup>1</sup> In Missouri, the prevalence increased with age and African Americans had a significantly higher prevalence than whites. Adults with a household income less than \$15,000 had a significantly higher prevalence than those with a household income of \$50,000 or greater. In addition, the prevalence was significantly lower among uninsured adults (5.4%) than among adults who were covered by either MO HealthNet (Medicaid, 15.2%) or other types of health insurance (11.9%). This is likely because uninsured adults tend to be younger, and also less likely to be diagnosed even if they have diabetes because of lack of access to healthcare (Table 1). Based on the 2012 National Health and Nutrition Examination Survey, it is estimated that 27.8 percent of people with diabetes were undiagnosed.<sup>2</sup> Assuming the same prevalence in Missouri, about 156,000 Missourians were estimated to have undiagnosed diabetes in 2012. The prevalence of diabetes varies across Missouri counties. In general, the prevalence was higher in the southeast part of Missouri than in the rest of the State in 2011, the most recent county-specific data available (Figure 1). The 2011 County-level Study was funded by the Missouri Foundation for Health and there is currently no funding available to repeat the study.

Table 1. Prevalence of Diabetes among Adults, Missouri, 2013

	Number*	Percent (95% CI **)		Number	Percent (95% CI)
<b>Overall</b>					
<i>Diagnosed</i>	446,063	9.6 (8.7 - 10.5)	<b>Household Income (\$)</b>		
Undiagnosed <sup>#</sup>	155,692	2.6	<15,000	77,965	15.6 (12.0 - 19.2)
<b>Age (year)</b>					
18-24	4,169	0.7 (0.1 - 1.4)	15,000-24,999	79,158	10.6 (8.6 - 12.6)
25-44	67,235	4.4 (3.0 - 5.7)	25,000-34,999	53,822	11.6 (8.7 - 14.4)
45-64	200,277	12.4 (10.7 - 14.1)	35,000-49,999	59,101	10.1 (7.6 - 12.7)
≥ 65	172,478	19.0 (16.9 - 21.2)	50,000-74,999	52,615	8.3 (6.1 - 10.5)
			75,000 or more	55,680	5.6 (4.0 - 7.2)
<b>Race</b>					
White	355,151	9.9 (8.8 - 11.0)	<b>Education</b>		
African American	64,997	16.4 (12.6 - 20.3)	Less than High School	69,632	11.3 (8.4 - 14.1)
Other	19,079	7.7 (4.2 - 11.2)	High School	158,812	10.9 (9.2 - 12.5)
<b>Sex</b>					
Male	202,405	9.0 (7.6 - 10.3)	More than High School	216,602	8.5 (7.4 - 9.6)
Female	244,550	10.2 (9.1 - 11.4)	<b>Insurance status</b>		
			Uninsured	37,900	5.4 (3.7 - 7.1)
			Medicaid	91,012	15.2 (9.9 - 20.5)
			Other Insurance	405,700	11.9 (10.7 - 13.1)

\*The sum of the number of adults in each subcategory may not add up to the total diagnosed number due to rounding and estimation methods.

\*\* CI: Confidence interval.

<sup>#</sup>Estimated based on the 2012 National Health and Nutrition Examination Survey: 27.8 percent of people (all ages) with diabetes were undiagnosed in the US in 2012.

Data Source: Missouri Behavioral Risk Factor Surveillance System.

<sup>1</sup> **Prevalence:** The proportion (usually a percentage) of a population that has a defined risk factor, disease, or condition at a particular point in time.

In 2012, diabetes led to 12,141 emergency room visits, with an age-adjusted rate of 2.0 visits per 1,000 population. The rate increased with age until age 45, and then leveled off. African Americans had a significantly higher rate than whites. There were 11,684 inpatient hospitalizations with diabetes as the primary diagnosis in 2012, for an age-adjusted rate of 18.5 hospitalizations per 10,000 population. In 2012, 1,371 Missourians died with diabetes listed as the underlying cause, for an age-adjusted death rate of 19.5 per 100,000 population. Both the hospitalization and death rates increased with age, were higher among African Americans than among whites, and were higher among men than among women (Table 2).

Table 2. Diabetes Emergency Room Visit, Inpatient Hospitalization, and Death Rates <sup>\*</sup>, Missouri, 2012

	Emergency Room Visit		Hospitalization		Death	
	Number	Rate (95% CI <sup>#</sup> ) per 1,000	Number	Rate (95% CI) per 10,000	Number	Rate (95% CI) per 100,000
<b>Overall</b>	12,141	2.0 (1.9 - 2.0)	11,684	18.5 (18.1 - 18.8)	1,371	19.5 (18.5 - 20.6)
<b>Age (year)</b>						
<15	372	0.3 (0.3 - 0.4)	489	4.2 (3.8 - 4.6)	0	0.0 (0.0 - 0.0)
15-24	949	1.1 (1.1 - 1.2)	1,151	13.8 (13.0 - 14.7)	4	0.5 (0.0 - 0.0)
25-44	3,423	2.2 (2.2 - 2.3)	2,788	18.3 (17.6 - 19.0)	48	3.2 (2.3 - 4.2)
45-64	4,787	3.0 (2.9 - 3.0)	4,486	27.7 (26.9 - 28.5)	351	21.7 (19.5 - 24.1)
≥ 65	2,609	3.0 (2.8 - 3.1)	2,770	31.4 (30.2 - 32.6)	968	109.6 (102.8 - 116.7)
<b>Race</b>						
White	8,213	1.5 (1.5 - 1.6)	8,235	15.0 (14.7 - 15.4)	1,137	17.8 (16.8 - 18.9)
African American	3,482	5.1 (4.9 - 5.2)	3,125	45.6 (44.0 - 47.3)	211	36.9 (32.0 - 42.4)
<b>Sex</b>						
Male	5,837	2.0 (1.9 - 2.0)	6,041	19.9 (19.4 - 20.4)	696	22.9 (21.2 - 24.7)
Female	6,304	2.0 (1.9 - 2.0)	5,643	17.2 (16.7 - 17.7)	675	16.8 (15.6 - 18.2)

<sup>\*</sup> Diabetes as the primary diagnosis for emergency room visits and hospitalizations, and as the underlying cause of death. Age adjusted to the 2000 US Standard Population.

<sup>#</sup> CI: Confidence interval.

Data Source: Missouri Information for Community Assessment (MICA)

American Diabetes Association (ADA) estimated that the direct medical cost attributed to diabetes was \$3.24 billion and indirect cost<sup>ii</sup> was \$1.24 billion in Missouri in 2012.<sup>3</sup> Using the Chronic Disease Cost Calculator from the Centers for Disease Control and Prevention (CDC), it is estimated that the direct medical cost attributed to diabetes was about \$2.3 billion in Missouri in 2012, including \$321 million cost to Medicaid.<sup>4</sup> Although there is a discrepancy between the ADA and CDC estimates, both showed diabetes has inflicted a substantial economic burden on the State of Missouri. For detailed diabetes data, including risk factors for diabetes and its complications, preventive care practices among people with diabetes, gestational diabetes and other information, please visit the Missouri Diabetes Profile at <http://health.mo.gov/data/mica/ASPsDiabetes/header.php?cnty=929>.

<sup>ii</sup> **Indirect cost attributed to diabetes** includes costs due to absenteeism, presenteeism, reduced productivity for those not in labor force, unemployment from disability, and premature mortality.

Figure 1. Prevalence of Diabetes in Missouri Counties, 2011



Data Source: 2011 Missouri County-level Study

## **Part II: Current Programs**

1. Current Diabetes prevention programs at MO HealthNet Division (MHD) include:

- a. Primary Care Health Home (PCHH) Program

Missouri's Primary Care Health Home State Plan Amendment was formally approved December 23, 2011. Services began January 1, 2012. In July 2011, MO HealthNet

solicited applications from primary care providers interested in participating in the PCHH initiative. The PCHH program began with a total of 24 primary care health home organizations operating health homes in 86 sites throughout Missouri. MHD is currently adding another 11 new PCHHs and new sites to existing PCHHs, bringing the total number of sites to almost 120 across the state.

The populations eligible for the PCHH Program include those with 2 or more chronic conditions or one chronic condition and a risk factor for a second. Patients with Diabetes are considered to have one chronic condition and be at risk for a second.

Accounting for population churn, the original PCHH population runs around 14,000 participants on a monthly basis. An average of 32.5 percent of all people enrolled in this population has a diagnosis of diabetes in the electronic medical record's active problem list. This compares to the CDC's national prevalence of 9.3 percent in 2012<sup>5</sup>. Eleven of the original PCHH organizations show percentages of 30 or less, while the other 13 have averages exceeding 30 percent. Of note, the population means of PCHH participants who have overweight and obesity included as a diagnosis or in the active problem list is 73.5 percent, compared with the CDC's 2011-2012 national statistic of obesity prevalence of 35.1 percent and overweight and obesity prevalence of 69.0% in adults 20 years and older<sup>6</sup>.

Clinical outcomes achieved thus far include but are not limited to clinically significant improvements in LDL levels, Blood Pressure, and HgB A1C levels which translate to a 30% decrease in Coronary Heart Disease; 16% decrease in Coronary Heart Disease, 42% decrease in stroke; and 21% decrease in Diabetes Mellitus related deaths, 14% decrease in Myocardial Infarction, 37% decrease in microvascular complications respectively in the impacted population<sup>7</sup>. The PCHH program has also demonstrated reductions in emergency department use and hospital admissions.

Based on average costs for hospital stays and emergency room services, and adjusting for inflation, together these reductions resulted in a total savings of \$5,678,411 for the period January 2012 through June 2013. Per-member per-month (PMPM) payments for this period totaled \$8,029,691, so the net result is that the PCHH initiative saved 70.72% of the total PMPM payment.

An alternative approach to assessing the cost of care is to compare the total cost to Medicaid of all care for the year prior to enrollment with the total cost to Medicaid of all care for the year following enrollment in a PCHH. MO HealthNet analyzed total Medicaid cost for individuals enrolled for at least nine months between January 2012 and June 2013. These individuals accounted for a net savings of \$147.97 PMPM, over and above the \$60 average PMPM cost of the PCHH; or total savings to Medicaid of approximately \$2,000,000 compared to the cost of their care in the year prior to enrollment in a PCHH. The largest savings were noted in hospital outpatient and medical/professional categories.

## b. Managed Care Case/Disease Management

**Case Management:** The health plan shall provide case management to selected members. The health plan case management service shall focus on enhancing and coordinating a member's care across an episode or continuum of care; negotiating, procuring, and coordinating services and resources needed by members/families with complex issues; ensuring and facilitating the achievement of quality, clinical, and cost outcomes; intervening at key points for individual members; addressing and resolving patterns of issues that have negative quality cost impact; and creating opportunities and systems to enhance outcomes. The health plan may use a Section 2703 designated health home providers to perform case management functions if the health home practice is a member of the health plan network.

**Disease management:** Intensive management of a particular disease or syndrome. Disease management encompasses all settings of care and places a heavy emphasis on prevention and maintenance. It is similar to case management, but more focused on a defined set of programs relative to an illness or syndrome.<sup>8</sup>

The health plan shall have disease management programs for major depression, asthma, and at least one of the following: obesity, diabetes, hypertension, or Attention Deficit Hyperactivity Disorder (ADHD). The health plan may use a Section 2703 designated health home providers to perform disease management functions if the health home practice is a member of the health plan network.

**Additional Services:** In addition to the services listed in the comprehensive benefit package, the health plan shall provide specified services to children under twenty-one (21) years of age and pregnant women with ME codes 18, 43, 44, 45, and 61, including Diabetes self-management training for persons with gestational, Type I, or Type II diabetes.

Using the 2013 Healthcare Effectiveness Data and Information Set (HEDIS) measures for managed care, 75% of those with a diagnosis of diabetes had a hemoglobin A1C test in the measurement year and 64% had a Low-density lipoprotein (LDL) cholesterol test in the measurement year.

## c. Home Tele-monitoring, Page Minder, and Medication Therapy Management (MTM)

**Tele-monitoring** is a small contracted program with Oxford Healthcare to supply in-home monitors that collect patients' vital signs and other clinical information and relay the data electronically to a nursing station for collection and oversight. If the reviewers at the nursing station detect potential problems in values for blood glucose, blood pressure, patient weight, etc., they can intervene and make a visit to the patient's home. If necessary, the patient will be directed for medical treatment. The goal is to help keep patients out of the hospital and/or Emergency Department. A monthly average of about 215 participants received services in state fiscal year 2014.

**PageMinder** is a small contract that provides wireless patient notification to individuals with chronic conditions, including diabetes. Notifications consist of reminders to take medications at scheduled times, to test blood sugar, etc. Goals include keeping patients adherent to treatment regimens so they can avoid unnecessary hospitalizations and Emergency Department visits. A monthly average of about 700 participants received services in state fiscal year 2014.

**Medication Therapy Management (MTM)** is for pharmacist professional services to educate and counsel patients about potential gaps in treatment. For example, a pharmacist will receive a notification that a patient using their pharmacy does not have a claim for an annual foot exam, or perhaps no laboratory claim to indicate that they have had a regular A1C screen. The pharmacist will “reserve” an intervention opportunity and when the patient shows up in the pharmacy, they can counsel the patient about the need to adhere to evidence-based treatment protocols for their diabetes (among other disease states). The pharmacist must be properly qualified and enrolled to provide and bill MO HealthNet for these services.

Below is the MTM report for time period 10/1/13 – 9/30/14. All patients have a diagnosis of diabetes from paid medical claims history.

	Unique Patients with Diabetes	Number of patients with MTM interventions	Number of MTM interventions provided for these 7 patients	Pharmacy savings for these 7 patients (annualized)	Medical savings for these 7 patients (annualized)
MTM Messages	22,499	7	19	\$2,703.96	\$17,330.04

The MTM program was approved by Centers for Medicare and Medicaid Services (CMS) effective January 1, 2013 and providers are still enrolling in the program to provide interventions. The current provider total to date is 182 active users (27 of these providers enrolled over the last 4 months).

d. Fee-for-Service (FFS) Case Management Pilot

MHD is also beginning a case management pilot in the FFS population. This case management pilot focuses on complex patients, medically and/or through utilization of services, not eligible for health home based on the enrollment criteria to provide health-home like interventions. Empanelment is currently underway.

2. Current Diabetes programs at DHSS include:

Diabetes programs at DHSS are part of the Missouri Actions to Prevent Chronic Disease and Control Risk Factors (MAP). MAP is part of the 1305 Federal Funding Opportunity which combined funding for Diabetes, Heart Disease, Obesity and School Health. Many activities for these programs overlap.

## a. Chronic Disease Collaborative

The Chronic Disease Collaborative program targets improving the quality of care received by disparate populations utilizing Community Health Centers (CHC). The program supports the use of Electronic Health Records (EHR) and a population health management tool called Data Repository and Visualization System (DRVS, pronounced Drives). Together these tools track performance measures in registries, plan patient visits around performance measure goals which are managed by Plan/Do/Study/Act (PDSA) cycles at the clinic. Diabetes performance measure goals include reducing uncontrolled A1C (>9), increasing the number of people with diabetes who have controlled blood pressure (<140/90), increasing the number of people with diabetes who have measured and controlled cholesterol, increasing the number of people with diabetes who received annual eye exams, increasing the number of people with diabetes who have a foot exam, increasing the number of people with diabetes who have a kidney screening and increasing the number of people who have their tobacco use assessed and then receive cessation advice. Additional measures for BMI assessment and counseling and cardiovascular measures around blood pressure and cholesterol control are also part of the project.

## b. The Guideline Advantage (TGA)

The TGA is a registry based population health management tool developed by the American Diabetes Association, American Heart Association and the American Cancer Society. This program targets small practices that already have EHRs but are struggling to take advantage of them. It provides tools similar to what has already been shown to work for the CHC in the Chronic Disease Collaborative. It will include practice facilitation coaching for 2 years for those practices that participate.

## c. Pharmacist Integration

MAP's Pharmacist Integration project is based on the Asheville Project and Ten City Diabetes Challenge which showed an evidence base for the cost effectiveness in integrating the Pharmacist into the Care Team.

**Community Health Center – Pharmacist Integration (CHC-PI)** is a pilot project to identify and develop processes and systems that can help pharmacists to become part of the care teams. Initially this will only have six participating CHCs, some in urban and some in rural areas, some with internal pharmacies and some without, all with identified committed participants. The project will focus on MO HealthNet patients to take advantage of MO HealthNet's MTM system and utilize existing electronic tools like CyberAccess's Direct Care Pro and Care Management Technology's Pro Act tool to make this work easier and more sustainable. Centers and Pharmacists that participate in this program will develop methods to improve care for the most at risk most expensive patients. Eventually this program will expand beyond the initial 6 centers to additional CHCs and then eventually to practices that are not CHCs.

**Medication Therapy (MT) Certification** is required to be able to utilize Direct Care Pro to get paid for MTM for MO HealthNet Patients. Participating pharmacists must receive a MT Certification for their license. MT Certification is available to all PharmDs that apply. If you have a Missouri Pharmacy License but do not have a PharmD you can take additional training to get the MT Certification. DHSS will be making this training available to 50 pharmacists a year to increase capacity in the pharmacy community to participate in MO HealthNet's Direct Care Pro MTM project. Besides increasing the positive outcomes of the MHD MTM project, the CHC-PI program will be ready to expand throughout the state.

**Diabetes Accreditation Standards-Practical Applications (DASPA)** is a training program to help establish community pharmacy as an accredited diabetes education program through the American Association of Diabetes Educators (AADE). It can be a rewarding venture for the pharmacist, both financially and professionally. DASPA offers community pharmacists training to expand their role into diabetes self-management education/training (DSME/T), which is eligible for payment by the CMS. The AADE is one of two entities approved to accredit a pharmacy practice to receive payment by CMS for the provision of diabetes self-management education/training (DSME/T).

d. Patient Centered Medical Home (PCMH)

PCMH is a way of organizing primary care that emphasizes care coordination and communication to transform primary care into "what patients want it to be." Medical homes can lead to higher quality and lower costs, and can improve patients' and providers' experience of care. MAP is supporting this practice transformation as part of the Chronic Disease Collaborative and in our work with practice on TGA.

e. Diabetes Prevention Program (DPP)

The DPP is a national evidence-based lifestyle change program for preventing type 2 diabetes promoted by the CDC. Three organizations provide the Diabetes Prevention Program in Missouri, all located in the St. Louis area. MAP supports these efforts through Pre-diabetes awareness efforts, strategic communications, hosting presentations to medical professionals, and working to expand the program into additional areas.

f. Community Health Worker (CHW)

The CHW is a pilot project being implemented in the Kansas City area. Through the Kansas City Metro Community College, community health workers are attending a Community Health Worker Certificate Program. Once certified, the individuals are placed in health care settings to assist medical professionals with improving health outcomes for individuals through the provision of services such as following up with individuals to identify barriers that prevent compliance with treatment recommendations, assisting in linking community members to medical care and a

range of social services, and serving as a liaison with clinical and administrative staff by providing information on cultural issues impacting health. The Mid America Regional Council (MARC) Community Health Worker Advisory Committee, which includes Kansas City Metro Community College, health care providers, community organizations, as well as local, state and federal government, meets monthly to obtain feedback from individuals on the community health worker project. To avoid duplication of effort, MAP staff members participate in monthly calls with the Mid America Regional Council's Community Health Worker Advisory Committee. Lessons learned will improve the process for developing a statewide program. The statewide program will initially focus on standards and a module specifically targeting high blood pressure, which is a major risk factor for stroke, heart attack and diabetes. A Statewide Community Health Worker Meeting was held in December 2014 to bring partners together to review the Department's position, definition of community health worker and grant requirements. In addition, this meeting will be an opportunity to share information about current community health worker efforts across the state, determine the role of this group and decide on next steps for further discussion and future meetings.

## **Part III: Coordination and Partnerships**

MHD actively collaborates with DHSS, including but not limited to diabetes prevention and management. Areas of collaboration include epidemiologic and data analysis for the MHD population, MTM for diabetes, and coordination in the development of CHW programs. This collaboration is at all levels, from the director to program staff at both MHD and DHSS. In addition, MHD actively participates in the Children's Service Commission Subcommittee on Childhood Obesity; with the MHD managed care plans in case management and disease management efforts; with Health Home providers in care coordination and management efforts; and will be working more closely with complex patients, local community-based partners and services, and providers through the FFS Case Management Pilot program.

## **Part IV: Action Plan**

1. In order to impact diabetes and pre-diabetes in the MHD population, MHD proposes the following:
  - a. MHD, among other initiatives, has focused on overweight and obesity interventions. As part of this focus, MHD is proposing to update its bariatric surgery policy to cover bariatric surgery at a BMI of 35 with co-morbidity, which would align with the evidence-base.

### **Research Findings <sup>9</sup>**

- Bariatric surgery was more *clinically* effective than non-surgical therapy for weight loss (Randomized Controlled Trials report 60-90% reduction in excess body fat)
- Bariatric surgery may be cost-effective for adults with Class I obesity and comorbidity when considered over a lifetime

- Surgery results in significant remission of diabetes and metabolic syndrome compared to non-surgical weight loss therapies (75% remission of diabetes over 10 years in Swedish Obesity Study)
- Bariatric surgery is **cost-effective** compared to non-surgical therapy within accepted thresholds, for the following subgroups:
  - $BMI \geq 35$  and one or more comorbidities
  - $BMI \geq 40$
- Bariatric surgery may be cost-saving (dominant) over a lifetime for Class II obese individuals with DM II and for super obese ( $BMI \geq 50$ ) with a comorbidity

### ***Cost savings and Clinical Improvements***

#### *Diabetes<sup>10</sup>*

Additional searches of the literature reveal that the costs of all types of bariatric surgery are recovered an average of **30 months** after surgery in diabetic/metabolic disorder patients with a BMI 35 kg/m<sup>2</sup> utilizing a cluster Tobit model, based on the value of 2007 US dollars.

By six months, 28.3 percent of surgery patients had a claim for diabetes-related condition compared to 73.5 percent of control patients.

At month six, only 33.5 percent of cases had filled a prescription for diabetic medication, compared to 90 percent of controls.

#### *Hypertension<sup>11</sup>*

"For those severely overweight patients with elevated blood pressure, or under treatment for elevated blood pressure, bariatric surgery offers the promise of improved health, with not only substantial and sustained weight loss, but also the added benefit of significant blood pressure improvements" said study co-author Anita Courcoulas, M.D., associate professor of surgery at the University of Pittsburgh School of Medicine and director of the Minimally Invasive Bariatric and General Surgery program at UPMC.

#### *General<sup>12</sup>*

Intentional weight loss in the obese causes a marked reduction in the 2-year incidence of hypertension, diabetes and some lipid disturbances. The results suggest that severe obesity can and should be treated.

#### *Overall<sup>13</sup>*

A substantial majority of patients with diabetes, hyperlipidemia, hypertension, and obstructive sleep apnea experienced complete resolution or improvement of their comorbid condition following bariatric surgery.

- b. In addition, MHD proposes to cover evidence-based multi-component weight reduction programs initially supported by the United States Preventive Services Task Force and also being pursued by the Children's Service Commission Subcommittee

on Childhood Obesity. Obesity increases the risk of diabetes and higher healthcare expenditures. The availability of this benefit is anticipated to reduce the incidence of pre-diabetes and mitigate the morbidity related to diabetes and diabetes-related complications.

According to the USPSTF, “For obese patients with elevated plasma glucose levels, behavioral interventions decreased the incidence of diabetes diagnosis by about 50% over 2 to 3 years (number needed to treat, 7). Behavioral interventions also demonstrated some improvement in intermediate health outcomes, such as blood pressure, waist circumference, and glucose tolerance”.

- c. Furthermore, MHD proposes to add community health workers (CHW) as a provider type to the PCHH Program, the FFS Case Management Pilot Program, and MHD-defined Managed Care high-risk and super-utilizer population. These providers would provide community-based care coordination to complement clinic and hospital care coordination. They would assist individuals in the management of their diabetes and issues impacting their ability to manage their diabetes. It is anticipated that this provider type will improve diabetes management and follow-up, resulting in reduced morbidity and healthcare related costs. Possible examples of their activities include:
  - facilitate appointments (including providing transportation )
  - follow up on appointments or other instructions by making home visits
  - communicate with primary care providers about barriers to self-management noted during home visits
  - assist in obtaining social and/or community services for participants
  - assist with post-hospitalization or emergency department visit follow-up by attempting to track down participants primary care staff have been unable to reach
  - participate in primary care provider meetings when possible

The National Community Health Advisor Study<sup>14,15</sup> includes seven basic roles for CHWs:

- Proving cultural mediation between communities and health and human services systems,
- Providing informal counseling and social support,
- Providing culturally appropriate health education,
- Advocating for individual and community needs,
- Ensuring that people obtain necessary services,
- Building individual and community capacity, and
- Providing basic screening services.

According to the CDC, “Many interventions that integrate CHW services into health care delivery systems are associated with reductions in chronic illnesses,<sup>16</sup> better medication adherence,<sup>17</sup> increased patient involvement,<sup>18</sup> improvements in overall community health,<sup>19</sup> and reduced health care costs.<sup>20,21</sup> One study of a CHW outreach program for underserved men found a return on investment ratio of more than \$2 for

each dollar invested.<sup>22</sup> Another study found an annual cost savings using CHWs of around \$2,000 per Medicaid patient with diabetes.<sup>23,24</sup>

2. MAP's current related work plans for their 1305 Grant from CDC is broken into 4 Domains. Domain 1 is Surveillance and Epidemiology, Domain 2 is Environmental Approaches that Promote Health, Domain 3 is Health Systems Interventions and Domain 4 - Community-Clinical Linkages. Diabetes related work is woven through the entire plan.

- a. **Domain 1 - Surveillance and epidemiology**, overarches the other three Domains evaluating all aspects of the program including Diabetes.
- b. **Domain 2 - Environmental approaches that promote health** has projects that are related to diabetes prevention.

CDC's Domain 2 strategies MAP is working on include:

- i. Promote the adoption of food service guidelines/nutrition standards, which include sodium
- ii. Promote the adoption of physical education/physical activity (PE/PA) in schools
- iii. Promote the adoption of physical activity (PA) in early care and education (ECE) and worksites
- iv. Increase access to healthy foods and beverages
- v. Implement food service guidelines/nutrition standards where foods and beverages are available. Guidelines and standards should address sodium
- vi. Create supportive nutrition environments in schools
- vii. Increase physical activity access and outreach
- viii. Implement physical activity in early care and education
- ix. Implement quality physical education and physical activity in K-12 schools
- x. Increase access to breastfeeding friendly environments

These upstream efforts will help reduce the number of people developing diabetes in the long run.

- c. **Domain 3 - Health systems interventions** directly targets interventions that affect care of people with diabetes as well as other chronic diseases.

CDC's strategies for this domain include:

- i. Promote reporting of blood pressure and A1C measures; and, as able, initiate activities that promote clinical innovations, team-based care, and self-monitoring of blood pressure
- ii. Increase implementation of quality improvement processes in health systems
- iii. Increase use of team-based care in health systems

On-going projects described in Part II of this document included in the plans for this domain are: The Chronic Disease Collaborative, TGA, CHC-PI, MT Certification, and PCMH.

d. **Domain 4 - Community-clinical linkages** targets efforts in communities to prevent and control diabetes.

CDC's strategies that MAP is participating in for Domain 4 are:

- i. Promote awareness of high blood pressure among patients
- ii. Promote awareness of prediabetes among people at high risk for type 2 diabetes
- iii. Promote participation in ADA-recognized, AADE-accredited, state-accredited/certified, and/or Stanford licensed diabetes self-management education (DSME) programs
- iv. Increase use of diabetes self-management programs in community settings
- v. Increase use of lifestyle intervention programs in community settings for the primary prevention of type 2 diabetes
- vi. Increase use of health-care extenders in the community in support of self-management of high blood pressure and diabetes
- vii. Increase use of chronic disease self-management programs in community settings
- viii. Implement policies, processes, and protocols in schools to meet the management and care needs of students with chronic conditions

Strategies ii, iii, iv, v, and vi are directly tied to diabetes management. Strategies i and vii are tied to diabetes control a little less directly but can have a great impact on management for those who have diabetes. Strategy viii is more like Domain 2 dealing with diabetes prevention. Projects in this domain listed in Part II are: DASPA, DPP and CHW.

## Part V: Budget Blueprint

In order to implement the proposed strategies, MHD and DHSS would anticipate pursuit of the following policy changes and budget considerations:

### 1. Bariatric Surgery Policy Change Cost-Impact

MHD has completed an initial cost-impact analysis and is continuing to refine the analysis. Initial calculation of cost impact/savings is based on claims submitted to MHD. In order to obtain a complete medical history via MHD claims, participants having bariatric surgery and continuous eligibility for one year pre- and one year post-surgery were queried. There were 123 MHD participants that met these criteria. Review of pharmacy claims for these 123 participants reflects a savings of \$1,827 per person between the one year pre-surgery and one year post-surgery. Further analysis of the 123 participants shows 92 of them having drugs specific to the treatment of diabetes, hypertension and heart disease that reflect a savings of \$1,122 over the one year pre/post-surgery period.

Non-drug claim data further reflects a savings of \$507 per person for the treatment of diabetes, hypertension, heart disease and Chronic Obstructive Pulmonary Disease (COPD). Consideration of claims for non-obesity related conditions (i.e. pregnancy, neoplasms, injury) is not relevant to this analysis.

Additionally, a review of participants having bariatric surgery and continuous eligibility for two years pre- and two years post-surgery were also queried. Nineteen MHD participants met these criteria. Review of pharmacy claims for these nineteen participants reflects a savings of \$5,562 per person between the two years pre-/post-surgery with eleven of these participants having a diagnosis of diabetes. Drugs specifically for the treatment of diabetes reflect a savings of \$2,286 per person over the two year post-surgery period. Drugs specifically for the treatment of hypertension and heart disease reflect an additional savings of \$110 per person.

Non-drug claim data further reflects a savings of \$236 per person for the treatment of diabetes, hypertension and COPD. Consideration of claims for non-obesity related conditions (i.e. pregnancy, neoplasms, injury) is not relevant to this analysis.

In the MHD analysis, 5% of the population eligible for bariatric surgery under the current policy has undergone bariatric surgery. Reasons for this may include not meeting the criteria to be a surgery candidate, such as demonstrating attempted weight loss prior to surgery and losing a certain percentage prior to surgery. With this policy change, more individuals would be eligible for bariatric surgery, and it is conceivable that more individuals would meet the criteria and thus undergo surgery. This could potentially result in a budget impact.

The next steps in this process include approval of the policy change proposal, updating the policy manual, and releasing a bulletin describing the policy change. As bariatric surgery is prior-authorized, no systems work would be required.

## **2. Evidence-based multi-component weight reduction programs**

“Projections for Missouri find that if the current trend in childhood obesity continues, Missouri will spend \$12 billion annually on obesity-related healthcare costs by 2030<sup>25</sup>” “States should have interest in obesity treatment modalities, as each obese Medicaid beneficiary costs, on average, \$1,021 more per year than normal weight beneficiaries.<sup>26</sup>” MHD is currently in the process of conducting a cost-impact analysis of the provision of these services to a defined population by a defined set of providers that would meet MHD established requirements. It is anticipated that there will be a budget impact requiring additional appropriations authority.

MAP will continue to support DPPs and other evidence-based lifestyle change programs that include weight loss as a goal. Third-party payers like the Missouri Consolidated Health Care Plan and others will be encouraged to provide coverage for their insured populations. Currently evidence has shown DPPs to be cost effective choices<sup>27</sup> with more evidence building all the time.

## **3. Addition of Community Health Workers (CHWs) as Providers**

With the addition of CHWs to MHD’s Primary Care Health Home Program, FFS Case Management Pilot Program, and the MHD-defined high risk and super-utilizer Managed Care population, MHD would activate certain Current Procedural Terminology (CPT)

codes, currently thought to include S9445 and S9446, through which these provider services would be billed. The state of South Carolina identified these approved CPT codes for CHW services. These codes are billed by physicians and nurse practitioners under the NPI number. For the S9445 code, or individual patient education, the South Carolina Department of Health quoted a fee of \$20 per 30 minute unit, allowing for no more than 4 units per day and no more than 8 units per month. For the S9446 code, or group patient education, the South Carolina Department of Health quoted a fee of \$6 per 30 minute unit with a maximum of 5 individuals per group and no more than 8 units per patient per month. The budget impact to MHD would come from the activation of these CPT codes and would require additional appropriations authority.

In addition to activating the CPT codes, a standard training and certification process would need to be developed as well as additional workforce development. MHD will need to define eligible participant populations, eligible provider credentials, which practices can add them, and fully evaluate the cost model.

The approach of MAP to this issue will be to support CHW and work to establish policies to get reimbursement for their work covered by third-party payers<sup>28</sup>. MAP will convene key stakeholders to ensure knowledge of how community health workers improve health outcomes and may aid with health care cost savings through assisting individuals with the management of chronic health conditions. An opportunity exists through the MAP grant to assist approximately 22 CHWs to receive the appropriate training through educational institutions offering the approved curriculum by funding a scholarship program. In addition, if the curriculum is offered throughout the state, consideration will need to be given to providing the curriculum through web-based media. Transitioning the curriculum from on campus to web-based for statewide reach could potentially result in a budget impact. As CHW are certified across the state a need for a central registry exists in order to assure ongoing continuing education for those who were trained.

## ENDNOTES

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<sup>2</sup> Centers for Disease Control and Prevention. National Diabetes Statistics Report. Available at <http://www.cdc.gov/diabetes/pubs/statsreport14/national-diabetes-report-web.pdf>.

<sup>3</sup> American Diabetes Association. Economic Costs of Diabetes in the U.S. in 2012. Available at: <http://care.diabetesjournals.org/content/early/2013/03/05/dc12-2625.full.pdf+html> for methodology, and <http://care.diabetesjournals.org/content/suppl/2013/03/05/dc12-2625.DC1/DC122625SupplementaryData.pdf> for state data.

<sup>4</sup> Center for Disease Control and Prevention. Chronic Disease Cost Calculator Version 2. Available at: <http://www.cdc.gov/chronicdisease/resources/calculator/>

<sup>5</sup> National Center for Chronic Disease Prevention and Health Promotion, Division of Diabetes Translation, National Diabetes Statistics Report, 2014 <http://www.cdc.gov/diabetes/pubs/statsreport14/national-diabetes-report-web.pdf>

<sup>6</sup> National Center for Health Statistics, FastStats, Obesity and Overweight <http://www.cdc.gov/nchs/fastats/obesity-overweight.htm>

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<sup>8</sup> Definition used with permission of Center for Health Care Strategies, Inc., Princeton, New Jersey, "Case Management in Managed Care for People with Developmental Disabilities: Models, Costs and Outcomes, January, 1999"

<sup>9</sup> Oregon Health & Science University, Cost Effectiveness of Bariatric Surgery, Evidence & Policy Summary, May 2012

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<sup>11</sup> "Bariatric Surgery Leads To Long-Term Blood Pressure Changes In Extremely Obese Patients," <http://www.sciencedaily.com/releases/2006/03/060320223638.htm>

<sup>12</sup> Sjöström, C. D., Lissner, L., Wedel, H. and Sjöström, L. (1999), Reduction in Incidence of Diabetes, Hypertension and Lipid Disturbances after Intentional Weight Loss Induced by Bariatric Surgery: the SOS Intervention Study. *Obesity Research*, 7: 477–484. doi: 10.1002/j.1550-8528.1999.tb00436.x

<sup>13</sup> Buchwald, H. MD, PhD; Avidor, Y. MD; Braunwald, E. MD, et al. (2004) Bariatric Surgery: A Systematic Review and Meta-analysis. *JAMA*. 2004; 292(14):1724-1737. doi:10.1001/jama.292.14.1724

<sup>14</sup> Community Health Workers: Expanding the Scope of the Health Care Delivery System. Kristine Goodwin and Laura Tobler, 2008

<sup>15</sup> Rosenthal et al., The Final Report of the National Community Health Advisor Study: Weaving the Future (Tucson: University of Arizona, 1998)

<sup>16</sup> Sjöström, C. D., Lissner, L., Wedel, H. and Sjöström, L. (1999), Reduction in Incidence of Diabetes, Hypertension and Lipid Disturbances after Intentional Weight Loss Induced by Bariatric Surgery: the SOS Intervention Study. *Obesity Research*, 7: 477–484. doi: 10.1002/j.1550-8528.1999.tb00436.x

<sup>17</sup> Sjöström, C. D., Lissner, L., Wedel, H. and Sjöström, L. (1999), Reduction in Incidence of Diabetes, Hypertension and Lipid Disturbances after Intentional Weight Loss Induced by Bariatric Surgery: the SOS Intervention Study. *Obesity Research*, 7: 477–484. doi: 10.1002/j.1550-8528.1999.tb00436.x

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<sup>22</sup> Robert Wood Johnson Foundation. Bending the Obesity Cost Curve in Missouri. Washington, DC: Trust for America's Health, 2012.

<sup>23</sup> Finkelstein EA, Trodron JG, Cohen JW, Dietz W. Annual medical spending attributable to obesity: Payer-and service-specific estimates. *Health Affairs*. September/October 2009;28(5):w822-w831. doi: 10.1377/hlthaff.28.5.w822.

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